NASA Policy Directive

NPD 8610.23C
Effective Date: August 18, 2006
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COMPLIANCE IS MANDATORY

Printable Format (PDF)

Request Notification of Change (NASA Only)

Subject: Launch Vehicle Technical Oversight Policy

Responsible Office: Space Operations Mission Directorate

1. POLICY

a. This directive establishes the NASA policy for Government technical oversight of launch services provided by commercial launch service providers. NASA remains accountable for the success of its missions launched with commercially provided launch services, since launch remains a high-risk element affecting mission success.

b. Commercial launch service providers own and operate launch vehicles and direct administrative and technical tasks associated with the launch services provided to NASA. Recognizing that the ownership of commercial launch service technical standards resides with each launch service provider, rather than with NASA, NASA uses a combination of specified approvals and targeted insight in order to establish, apply, and modify mission technical requirements, identify technical issues and resolve disputes, and assess the competency and adequacy of the technical work performed by the commercial launch service providers. NASA's technical oversight approach seeks to ensure the successful performance of the launch services for NASA missions.

c. Consistent with the responsibility to ensure the highest practicable probability of launch success, NASA shall retain involvement in and control of the launch through a technical oversight approach, which combines focused approvals and technical insight of contractor launch activities.

d. For the purposes of this policy, Government insight means acquiring knowledge and understanding of contractors' actions by the monitoring of selected metrics and/or milestones through insight, documentation review, meeting attendance, reviews, tests, and compliance evaluations. NASA retains the ability to nonconcur with a contractor's proposed actions for a NASA launch service based upon knowledge obtained during insight activities consistent with Section 5.c.2 below.

e. For the purposes of this policy, Government approval entails providing the launch service contractor formally documented authority to proceed and/or formal acceptance of requirements, plans, tests, or success criteria in specified areas.

2. APPLICABILITY

This policy applies to NASA Headquarters, NASA Centers and their Component Facilities, and the Jet Propulsion Laboratory to the extent specified in its contract. NASA launches, identified through the Flight Planning Board process as able to tolerate higher-risk launch services as defined in NPD 8610.7, may utilize a modified technical oversight approach. Suborbital missions (high-risk tolerance) are exempt from this technical oversight policy. Application of this approach to launches purchased under spacecraft contracts for on-orbit services or other innovative contractual arrangements will be reviewed by the Space Operations Mission Directorate (SOMD) and sponsoring Mission Directorate, on a case-by-case basis and approved through the Flight Planning Board process well in advance of contract action.

3. AUTHORITY

42 U.S.C. 2473(c)(1), Section 203(c)(1) of the National Aeronautics and Space Act of 1958, as amended.

4. APPLICABLE DOCUMENTS

a. 42 U.S.C. Section 14701 of the "Commercial Space Opportunities and Transportation, Definitions" (P.L. 105-303), as amended.

b. 42 U.S.C. Section 14731 of the "Requirement to Procure Commercial Space Transportation Services" (P.L. 105-303), as amended.

c. 42 U.S.C. Section 14732 of the "Acquisition of Commercial Space Transportation Services" (P.L. 105-303), as amended.

d. NPD 1280.1, NASA Management System Policy.

e. NPR 7120.5, NASA Program and Project Management Processes and Requirements.

f. NPD 8610.7, Launch Services Risk Mitigation Policy for NASA-Owned or NASA-Sponsored Payloads/Missions.

g. NPD 8610.12, Office of Space Operations Space Transportation Services for NASA and NASA-Sponsored Payloads.

h. NPD 8610.24, Launch Services Program (LSP) Pre-Launch Readiness Reviews.

i. NPR 8621.1, NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping.

j. NPD 8700.3, Safety and Mission Assurance Policy for NASA Spacecraft, Instruments,

and Launch Services.

k. NPR 8705.6, Safety and Mission Assurance Audits, Reviews, and Assessments.

l. NPR 8715.3, NASA Safety Manual.

m. NPR 8715.5, Range Safety Program.

n. NASA-STD-8709.2, NASA Safety and Mission Assurance Roles and Responsibilities for Expendable Launch Vehicle Services.

o. NASA HOWI8682-M012, Expendable Launch Vehicles (ELV) Manifest Process.

p. Program Management Plan for the Acquisition and Management of ELV Launch Services, dated February 2, 1999.

5. RESPONSIBILITY

a. The SOMD Associate Administrator is responsible for the NASA Launch Services Program (LSP) and provides necessary resources to support implementation of this policy.

b. The Assistant Associate Administrator for Launch Services, as delegated by the Associate Administrator of SOMD, is responsible for the following:

1. Assessing LSP implementation consistent with this policy directive.

2. Documenting approved exceptions, waivers, and deviations to the LSP technical oversight approach for specific missions at a Flight Planning Board.

3. Reviewing and coordinating any reduced technical oversight approach with the General Counsel to assess applicability of Federal Aviation Administration (FAA) launch licensing authority.

4. Assessing the applicability of this technical oversight approach to on- orbit service acquisitions or other innovative contractual approaches for launch in advance of contract award in coordination with the NASA Chief Engineer, affected Mission Directorate, and the Office of Safety and Mission Assurance.

5. Coordinating, through the Flight Planning Board, policy guidance on balancing NASA Risk Mitigation Policy (NPD 8610.7) with Technical Oversight Policy to enable mission-unique tailoring for individual missions/classes of missions prior to contract award.

c. The LSP Manager, reporting to the Assistant Associate Administrator for Launch Services, is responsible for the following:

1. Resolving technical issues that arise due to competition among mission requirements, cost and schedule, and best technical practices in the following manner:

i. The LSP Manager ensures that all relevant and reasonable technical issues are properly identified, competently addressed, and coordinated with the spacecraft customer.

ii. If the LSP Manager is unable to satisfactorily resolve technical issues and cannot

reach consensus with the spacecraft customer on a resolution path, then the LSP Manager shall elevate those issues to the SOMD. The SOMD Assistant Associate Administrator for Launch Services will coordinate with the affected spacecraft Mission Directorate, the Office of the Chief Engineer, the Office of Safety and Mission Assurance, and other Headquarters offices, as appropriate, to consider cost, schedule, and performance issues affected by the technical issue. The SOMD will seek to reach consensus, but retains authority for risk acceptance of technical launch vehicle issues as they affect SOMD's responsibility for assuring launch mission success.

2. Assuring that all NASA launch service contracts:

i. Include the Government's approval and insight requirements and rights as outlined in Attachment A to this policy directive.

ii. Permit independent verification/validation assessment by NASA of selected critical mission analyses, procedures, processes, tests, and acceptance criteria to obtain the maximum practicable probability of launch success.

iii. Permit approval by NASA of all mission-unique analyses, spacecraft to launch vehicle interfaces, designs, and test procedures.

iv. Permit substantial involvement in, control of, and final approval by NASA for the final "go-for-launch" decision.

v. Identify contractor assurance activities and permit NASA assurance activities, including verification of contractor implementation of assurance activities, through a formal NASA Safety and Mission Assurance process.

vi. Protect the safety of the public, the workforce and property; comply with all applicable statutory and regulatory environmental requirements; and preserve the national security as well as foreign policy interests from risks attendant with a Government launch.

vii. Provide, in accordance with NPR 7120.5, for the safety and mission success of the launch portion of any payload mission utilizing launch services acquired and managed by LSP and governed by this policy.

viii. Identify and arrange requisite assets to assure telemetry data is provided for all launch vehicle-powered flight events for every NASA LSP launch. Real-time telemetry for all vehicle-powered flight events is desirable; however, receive and record is mandatory.

d. Each Mission Directorate Associate Administrator is responsible for assuring that any proposed deviations to this policy are brought to the attention of the Assistant Associate Administrator for Launch Services and resolved through the Flight Planning Board process.

6. DELEGATION OF AUTHORITY

None.

7. MEASUREMENTS/VERIFICATION

a. Compliance with this NPD will be evaluated on a continuing basis by the SOMD Assistant Associate Administrator for Launch Services in coordination with the LSP Manager.

b. The LSP Manager shall maintain a record of lessons learned and NASA contributions to mission success as a result of NASA technical oversight after each NASA-acquired launch.

8. CANCELLATION

NPD 8610.23A, "Technical Oversight of Expendable Launch Vehicle (ELV) Launch Services," dated March 2, 2000.

/s/
Michael Griffin
Administrator

ATTACHMENT A: (TEXT)

NASA technical oversight of launch services provided by the private sector has two elements: Approval and Insight.

a. Specific areas requiring Government Approval are:

1. Spacecraft-to-launch vehicle interface control documents/drawings.

2. Decisions/resolutions of action items as determined by joint NASA/contractor Mission Integration Teams.

3. Mission-unique hardware design, analysis, manufacture, and test.

4. Mission-unique software design, analysis, and test.

5. Baseline and changes to Contractors Risk Management, Quality Management, and Systems Effectiveness Plan/Approach, consistent with the intent of NPD 1280.1, NPR 7120.5, and NPR 8715.3.

6. Top-level test plans, requirements, and success criteria for Integrated Vehicle Systems and for tests that verify the integrated vehicle interfaces.

7. Launch commit criteria.

8. Closeout of actions from NASA-Chaired Mission and Flight Readiness Reviews.

9. Spacecraft-handling procedures and deviations.

10. Integrated spacecraft/vehicle mate, test, and closeout procedures and deviations.

11. Integrated spacecraft/vehicle mate, test, and closeout as-performed procedures and deviations.

12. Launch countdown procedures and deviations that affect spacecraft/vehicle integrated assembly.

13. Anomaly resolutions that affect the integrated assembly.

14. Launch Go/No-Go.

b. Specific areas to be open to Government Insight are:

1. Baseline vehicle design, analyses, models, and configuration management.

2. Production program reviews, plans, and schedules.

3. Production and systems test and Material Review Boards.

4. Critical flight hardware pedigree.

5. Safety and Mission Assurance compliance evaluations (prime and subcontractors).

6. Pre-ship reviews.

7. Design and qualification reviews.

8. Major/critical problems.

9. Major system and integrated systems tests.

10. Post-test data.

11. Anomaly resolutions.

12. Failure analysis.

13. Vehicle/ground support equipment procedures.

14. Launch site support work schedules and plans.

15. Launch site vehicle preparations and closeout data.

16. Vehicle walk-down inspections.

17. Operations and procedure discipline.

18. Work practices and documentation.

19. Conduct of contractor-chaired Mission, Launch, and Flight Readiness Reviews.

20. Postflight vehicle, tracking, and range data.

21. Postflight anomaly investigations/closeouts.

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None.

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